

MANKIND

OFFICIAL JOURNAL OF THE ANTHROPOLOGICAL SOCIETIES OF AUSTRALIA

Vol. 3, No. 6

July, 1944

ORIGINAL ARTICLES :

Australia : Archæology.

McCarthy.

Records of the Rock Engravings of the Sydney District, Nos. VIII-XX.

by Frederick D. McCarthy.*

GROUP VIII. BEROWRA. (Plate Q, Fig. 1.)

Site. This group is situated on the north-eastern side of Poppy Trigonometrical Station, Irish Cowan, county Cumberland, and is about one hundred yards from the southern side of the Berowra Waters road, just above a creek which flows down a rugged gully to Berowra Waters. It is engraved on an extensive rock surface running east and west, and sloping slightly from north to south ; on the northern margin of the rock is a large area of mossy soil which might cover additional engravings.

Description. The group consists of (1), at the western end, a male human figure, wearing a girdle, with two " heads " similarly posed ; the fingers are suggested but no toes are present ; (2) ninety feet to the east is a large human figure in profile, wearing a girdle, neck-band and a headdress ; a hafted axe is held in the hand, which has five fingers, and there are nine toes on the one leg which probably represent the toes of both feet. It has seven eyes, and the rump projects downwards in an unusual manner. There are two short engraved lines at right angles to one another near the hand ; (3) eighty feet east-south-east of No. 2 is an undulating line, possibly part of an unfinished figure ; (4) two hundred and thirty feet east-south-east of No. 3 is a male human figure, with one foot turned inwards, and a varying number of toes and fingers ; (5) a little further eastward is a pubic girdle of the type made from a piece of marsupial skin cut into strips, of which there are twenty-three.

Technique and Preservation. Nos. 1, 2 and 3 have shallow grooves, up to one inch wide, smoothed by weathering and possibly by rubbing also. They are older than Nos. 4 and 5, the outlines of which exhibit clearly marked punctures $\frac{1}{8}$ in. wide with comparatively sharp edges. No. 5 is not as deeply punctured as No. 4. The rock surface upon which No. 4 is engraved is thickly covered with natural pits due to weathering agencies. The figures are well preserved with the exception of No. 1, which is now indistinct.

Interpretation. The sacred significance of this group is denoted by No. 2, seventeen feet long, evidently the figure of a large culture hero of the Daramulan type ; the band across the penis suggests circumcision, an operation not performed in eastern New South Wales, and it is therefore either a painted band or represents a circumcised culture hero about whom a myth has spread from the interior. The hafted axe in his hand might be one for his own use that is imbued with magical power, or on the other hand, might indicate that

* Published by permission of the Trustees of the Australian Museum, Sydney.

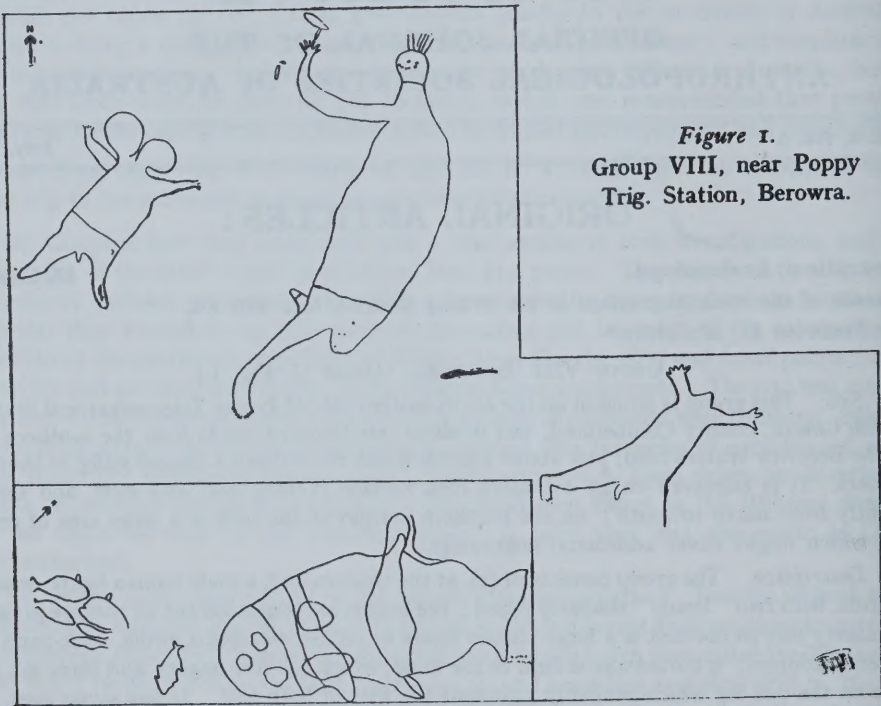


Figure 1.
Group VIII, near Poppy
Trig. Station, Berowra.

Figure 3.
Group XVIII, Mt. White.

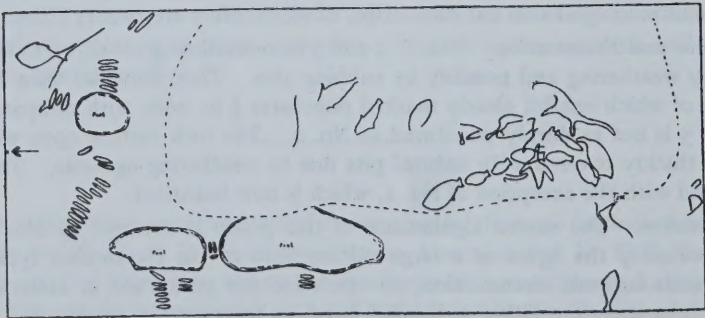


Figure 2.
Group IX, Washtub Creek, Berowra Waters.

he was connected in some way with the introduction of this implement into the Sydney-Hawkesbury River district.

In respect to No. 1 it must be borne in mind that one of the oval "heads" may be a basket or a ceremonial object carried in a dance-drama, but the similar pose of both appendages, each having a neck, strongly suggests a double-headed man as the figure has been described by Dr. Brodsky (1943, p. 6, fig. X).

Recorded by Messrs. F. L. S. Bell and F. D. McCarthy, 12th November, 1943.

GROUP IX. BEROWRA WATERS. (Plate Q, Fig. 2.)

Site. This group is engraved on a narrow, flat rock-ledge at the foot of Washtub Creek, about two hundred yards above the ferry-pontoon, on the northern bank of Berowra Waters, parish Cowan, county Cumberland. It is on the shore of a small bay. On the adjoining headland, fifty yards away, is a large shell-midden in which cockles and oysters predominate. In a shallow rock-shelter below the midden, low enough for its floor to be covered by high-tide, are drawings of fish in red ochre.

Description. About fifteen fish figures are now visible, and one in a line of six of them has apparently been attacked by a shag. A long-necked bird, probably a crane, has been engraved in such a manner that one side of a fish forms one side of the bird. Another bird, at the right, is like a duck or goose, and above it is an opossum depicted in a vigorous pose. A number of lines indicate portions of unfinished figures and others now weathered away. There is a large number of axe-grinding grooves round the shallow pools of water on the western end of the rock over which the creek flows. Most of the figures are approximately life-size.

Technique and Preservation. The majority of these engravings have smooth grooves up to 1 in. wide. A remarkable feature of the opossum figure is a series of punctures in its grooved outline which appear to have been done for the purpose of deepening the old groove, and it is thus a valuable record of the technique employed. Visitors walk across the group and in doing so have made many of the figures indistinct.

Interpretation. The presence of the shell-midden indicates that the drawings of fish and the engravings were done at leisure, and are not of ritual significance in this situation. The engravings were probably made while axes were being ground and sharpened, and the women would cross them daily to obtain water for the camp. The depiction of a bird attacking a fish is one of the rare compositions among the engravings of the Sydney-Hawkesbury district.

Recorded by Messrs. F. L. S. Bell and F. D. McCarthy, 12th November, 1943.

GROUP X. MIDDLE HARBOUR CREEK. (Figure 4.)

Site. Situated about one mile along the northern side of the Manly Pipe-line, beside a waterfall at the head of a gully, and north-west from a bridge across Middle Harbour Creek, parish Manly Cove, county Cumberland.

Description. This group consists of a wallaby which appears to have been drawn from a dead animal, two indeterminate figures, a man holding an oval object, a curved line, four ovals of the mundoe type, a cone-shaped object, a shield covered with punctures (representing the red dots on a white ground painted on this type of shield), on which the artist has made

two outlines on one side, and two wallabies or kangaroos with unusual lines attached to them.

Technique and Preservation. The outlines are of the gashed type, punctures being visible, and some of the figures are weathered and indistinct.

Interpretation. The general layout of the three wallabies or kangaroos, and the man holding some object which may be a weapon, suggests a hunting scene, the man having dropped his shield to facilitate freedom of movement. On the other hand, there may not be any relationship between the various figures.

Recorded by P. Slack, 11th November, 1943.

GROUP XI. ROCKY CREEK. (Figure 5.)

Site. Situated on a spur beside Coola road, on the eastern side of Rocky Creek, about one hundred yards from the road, and about one mile north of Killara Park, parish Gordon, county Cumberland. It is engraved on a small sloping rock, across which runs a track. There is an extensive view of the valley from the site.

Description. This group consists of an upper series, comprising a boomerang with two outlines on one side, an indeterminate figure of unique type, and a basket, and a lower series comprising a U-shaped figure, gnarl container, boomerang or container, curved line, bark canoe showing cross-ties, and a bark shield with transverse and longitudinal lines representing the design painted in red; the bird-track is on a separate boulder fifteen feet away. Most of the figures are natural size, with the exception of the canoe, which is very small in proportion to its true size.

Technique and Preservation. All but one of the figures are grooved, and the shallow outlines are up to half an inch wide. The outline of the indeterminate figure in the middle of the upper series is punctured and gashed, and has been smoothed by weathering agencies.

Interpretation. The range of subjects suggests the portrayal of most of the possessions of a family, and the circles may represent camps.

Recorded by F. D. McCarthy and P. Slack, 31st June, 1943.

GROUP XII. MT. CARROLL TRIG. STATION. (Figure 6.)

Site. Situated on the first hill south of the Mount Carroll Trig. Station, north of Middle Harbour Creek, in an open position with a clear view of the surrounding country. Parish Manly Cove, county Cumberland.

Description. A male human figure, 5 ft. 6 in. high, wearing armlets, shoulder cross-straps, and a girdle to which is attached a pubic tassel. The head appears to be decorated in such a way that the face is framed. The figure either represents a spiritual ancestor, or a man taking part in a ceremony.

Technique and Preservation. The outline is smoothly grooved, but is now indistinct in parts.

Recorded by P. Slack, 12th November, 1943.

GROUP XIII. FRENCH'S FOREST. (Figure 7.)

Site. Situated one hundred and sixty yards from French's Forest Cemetery, down a creek which runs through the cemetery. It is engraved on a rock by the side of and above a small waterfall and cave. Parish Manly Cove, county Cumberland.

Description. This group consists of a wallaby with scattered punctures inside its outline, a cone-shaped figure, and a short straight line.

Technique and Preservation. The outlines are of the gashed type, punctures being visible, but the figures are well preserved.

Recorded by P. Slack, 5th November, 1943.

GROUP XIV. FRENCH'S FOREST. (Plate R, Fig. II.)

Site. Situated about one hundred yards from the French's Forest Cemetery, down a creek which runs through the cemetery. Parish Manly Cove, county Cumberland.

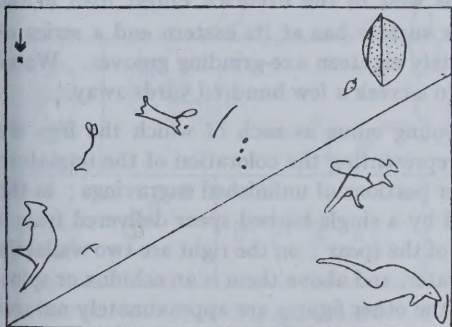
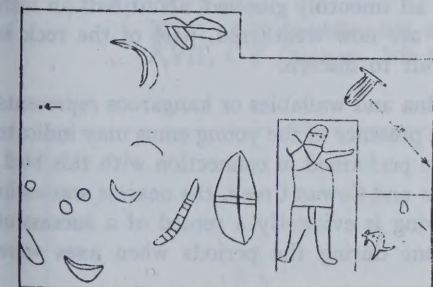


Figure 4.



Figures 5-7.

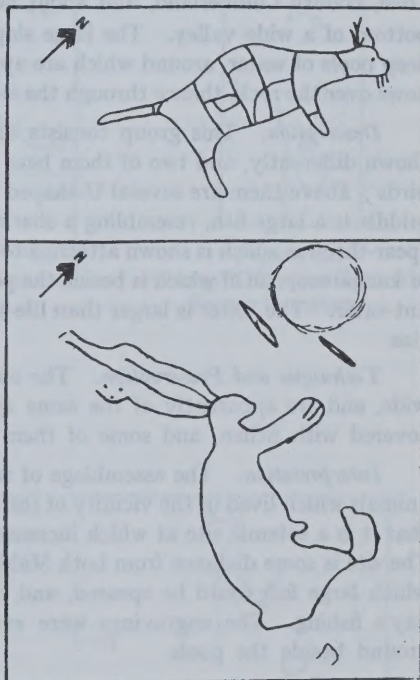


Figure 8.

- Figure 4. Group X, Middle Harbour Creek.
 " 5. " XI (left and top right), near Rocky Creek, East Killara.
 " 6. " XII, human figure (bottom middle), near Mt. Carroll Trig. Station.
 " 7. " XIII (bottom right), near French's Forest Cemetery.
 " 8. " XX (above) and XIX (below), at Calga. Scale, 1 in.=4 ft.

Description. This group consists of two axe-grinding grooves, a fish, three barred ovals, two bird-tracks, three hafted axes, a small human figure or ant, and several indeterminate figures.

Technique and Preservation. The line figure, large fish and two axes have smooth grooved outlines, broad and deep, and the balance are of the gashed type with punctures visible. Some are weathered and indistinct.

Interpretation. An indiscriminate series of figures which do not suggest a sacred significance.

Recorded by P. Slack, 5th November, 1943.

GROUP XV. BARE TRIG. STATION. (Plate R, Fig. 9.)

Site. Situated in a swamp about one mile west of Bare Trig. Station, parish Manly Cove, county Cumberland, and about half a mile west of the French's Forest road in the bottom of a wide valley. The large sloping rock surface has at its eastern end a series of deep pools of water, around which are approximately eighteen axe-grinding grooves. Water flows over the rock, thence through the swamp into a creek a few hundred yards away.

Description. This group consists of three young emus in each of which the legs are shown differently, and two of them bear stripes representing the coloration of the immature birds; above them are several U-shaped figures or portions of unfinished engravings; in the middle is a large fish, resembling a shark, pierced by a single-barbed spear delivered from a spear-thrower which is shown attached to the end of the spear; on the right are two wallabies or kangaroos, one of which is beside the pools of water, and above them is an echidna or spiny ant-eater. The latter is larger than life-size, but the other figures are approximately natural size.

Technique and Preservation. The outlines are all smoothly grooved, about half an inch wide, and are apparently of the same age. They are now weathered, part of the rock is covered with lichen, and some of them are difficult to discern.

Interpretation. The assemblage of emus, echidna and wallabies or kangaroos represents animals which lived in the vicinity of the site. The presence of the young emus may indicate that it is a totemic site at which increase rites were performed in connection with this bird. The site is some distance from both Middle Harbour and Cowan Creek, the nearest waters in which large fish could be speared, and this engraving is evidently a record of a successful day's fishing. The engravings were evidently done during the periods when axes were ground beside the pools.

Recorded by Messrs. A. D. G. Downer and F. D. McCarthy, 20th February, 1943.

GROUP XVI. KURING-GAI CHASE. (Plate R, Fig. 10.)

Site. The site is shown in MANKIND, 1941, Plate H, Fig. 6. It is a large, smooth rock surface on a heath-covered slope which extends from the high rocky mass of Topham Trig. Station, Kuring-gai Chase National Park, to a creek which flows into the southern arm of Refuge Bay. It is in a small amphitheatre formed by an inward curve of the rock-face of the spur on which Topham is situated. The rock slopes to the south, and in it are several large pot-holes now filled with soil. Water flows over it during rainy weather. From this rock there is an extensive view across a wide basin formed by Topham, Bairne and Willunga Trig. Stations.

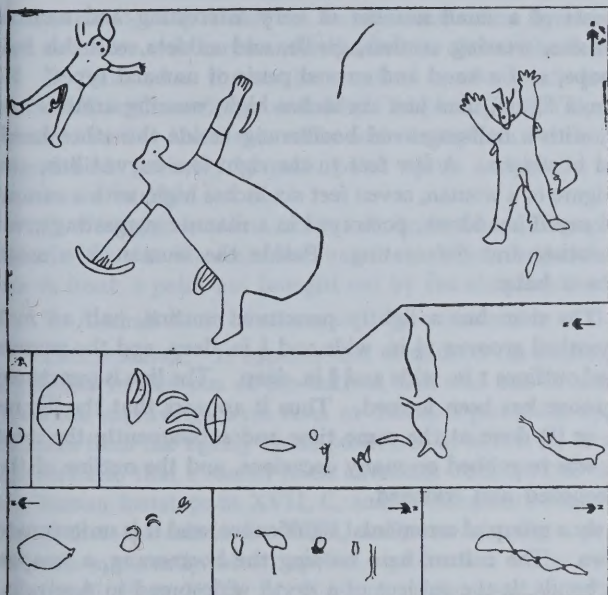


Figure 10.
Topham Trig. Station.

- Group XVI (top).
 „ XVII, A-B (middle, left to right).
 „ XVII, C-E (bottom, left to right).

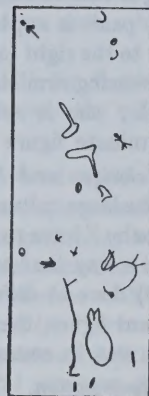


Figure 11.
Group XIV, near French's
Forest Cemetery.

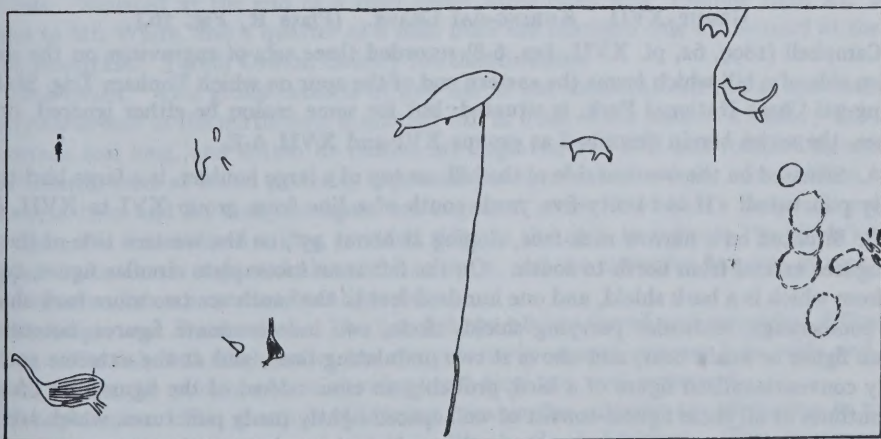


Figure 9.
Group XV, near Bare Trig. Station, French's Forest.

Description. This group consists of a small number of very interesting and unusual figures. On the left is a man, life-size, wearing armlets, girdle, and anklets, with his hair coiled and bound into a peaked shape, and a hand and curved penis of unusual types. He is looking toward a large male human figure, nine feet six inches high, wearing armlets and holding a boomerang in one hand, with a half-engraved boomerang beside the other hand, and his penis is apparently painted in stripes. A few feet to the right is a curved line, and further to the right (or east) is the figure of a woman, seven feet six inches high, with a curious head, wearing armlets, anklets and rayed headdress, portrayed in a manner suggesting great strength; she is evidently micturating and defaecating. Beside the woman is a small indeterminate figure that might be a baby.

Technique and Preservation. The man has a lightly punctured outline, half an inch wide, the large culture hero has smoothed grooves $1\frac{1}{2}$ in. wide and $\frac{1}{2}$ in. deep, and the woman and "baby" have roughly smoothed outlines 1 in. wide and $\frac{3}{8}$ in. deep. The line is punctured in such a way that a continuous groove has been formed. Thus it appears that the figures were (a) done at different periods, or (b) done at the same time and subsequently the most important figure, the culture hero, was re-rubbed on many occasions, and the outline of the woman was in course of being deepened and widened.

Interpretation. This is obviously a group of ceremonial significance, and it is unfortunate that its precise meaning is unknown. The culture hero holding the boomerang, a weapon imbued with magical power in his hands, is the subject of a myth widespread in Australia. His head is most peculiar in shape, and he either has his hair made up into a bag-like shape so that he is looking to the left, or has a distended face and is looking to the right. Some observers, notably the late B. L. Hornshaw, claim that he is a spiritual ancestor of the platypus clan. He is, however, a culture hero of the Daramulan type, with one leg, so important in the religious beliefs of south-east Australia.

Recorded by Mr. and Mrs. A. D. G. Downer and F. D. McCarthy, 29th August, 1943.

GROUP XVII. KURING-GAI CHASE. (Plate R, Fig. 10.)

Campbell (1899, 62, pl. XVII, figs. 6-8) recorded three sets of engravings on the south-eastern side of a hill which forms the eastern end of the spur on which Topham Trig. Station, Kuring-gai Chase National Park, is situated, but for some reason he either ignored, or did not see, the series herein described as groups XVI and XVII A-E.

A. Situated on the western side of the hill, on top of a large boulder, is a large bird-track, lightly punctured. It is twenty-five yards south of a line from group XVI to XVII, B.

B. Situated on a narrow rock-face, sloping at about 45° , on the western side of the hill. The figures extend from north to south. On the left is an incomplete circular figure, twelve feet from which is a bark shield, and one hundred feet to the south are two more bark shields, four boomerangs, lenticular parrying shield, circle, two indeterminate figures, boomerang, human figure or koala bear, and above it two undulating lines, and at the extreme end is a highly conventionalized figure of a bird, probably an emu. Most of the figures are life-size. The outlines of all these figures consist of well-spaced lightly made punctures, which are now being worn away by water running down the rock during rainy weather.

C. Situated on a narrow ledge of rock east of B, on a line from group XVI to XVII, B. The series comprises a fish, six feet to the right of it a stingray, two boomerangs and a mudoos.

or human footprint beside an indeterminate line figure. The narrow, grooved outlines of this series are weathered and indistinct in all but the fish.

D. Situated at the northern end of a curved rock-face that runs round the eastern end of the hill to the series recorded by Campbell (Pl. XVII, figs. 6 and 8), which are about two hundred feet to the south. The series comprises two human footsteps or mundoes, a long-legged bird, probably a crane, pubic apron and girdle, and the leg of an emu. All have punctured outlines.

E. Four fish in a line, shown at the bottom of Campbell's Plate XVII, fig. 6, which are included here to illustrate the manner in which the head of each one fits into the tail of the one in front, a point not brought out by the above author.

F. A small circle of stones on the southern side of the spur, overlooking group XVI.

Interpretation. It appears that the hill on the eastern end of Topham spur was not only a popular rendezvous of the natives, but was also of a highly sacred significance to them. That the engravings were done at different periods is apparent from the variation in their outlines from the lightly made punctures of XVII, B, to the deep wide grooves of XVI. It appears also that a sacred track extended from XVI to the hill, and that the "arrow" and the human footsteps in XVII, C, and in Campbell's Plate XVII, fig. 8, were an indication of the path to be followed. XVII, A-D, are miscellaneous assemblages of weapons, fish and animals apparently of no special significance. The school of fish attacked by a shark (Campbell, Plate XVII, fig. 8) is one of the finest pictorial compositions known among the Sydney-Hawkesbury engravings, but unfortunately part of the rock has been broken away by vandals and the rest of the surface is weathering, so that many of the figures are becoming indistinct.

Recorded by Mr. and Mrs. A. D. G. Downer and F. D. McCarthy.

GROUP XVIII. MOUNT WHITE. (Plate Q, Fig. 3.)

Site. Situated at the end of a road about three miles long, running from Mt. White hamlet to Mt. White, and a quarter of a mile from the northern side of the road at the foot of the mountain. Parish Cowan, County Northumberland.

Description. This group consists of five fish at the south-eastern end of the rock, and twenty-three feet to the north-west is another fish in front of the head of a whale; the latter is fourteen feet long, and within its outline are engraved five oval and rounded figures, the three anterior ones of which probably represent the eyes and blow-hole. In addition, three transverse lines and an elongate figure are engraved across the whale's body. It appears that the artist has utilized a long rounded ridge in the rock to indicate the whale's body, because the outline is engraved along and across it, and the extensive flat area of rock upon which the five fish are cut has been ignored.

Technique and Preservation. The five fish are all weathered and somewhat difficult to discern. The fish and whale series has comparatively smooth grooves $\frac{1}{2}$ in. wide and $\frac{1}{4}$ in. deep in which the punctures are showing, and they are well preserved.

Interpretation. This group is of interest because the subjects are all marine in nature and are engraved in the territory of a bush dwelling horde of aborigines. They may represent a record of visits made to a salt-water locality, the nearest being Brisbane Water and Broken Bay, where fish were eaten and a whale seen to be stranded or eaten at a feast. On the other

hand, they might be the work of salt-water folk who visited this locality for ceremonial or trading purposes.

Recorded by Mr. and Mrs. A. D. G. Downer, who found the group on 3rd January, 1944.

GROUP XIX. CALGA. (Figure 8.)

These figures are situated in the middle of an extensive swamp, on a large flat rock, between half and three-quarters of a mile north-west of Peat's Bridge road, near Calga, parish Narara, county Northumberland. There are no other engravings on the rock, but there are numerous pools of all sizes among which are axe-grinding grooves, some of which are shown. Although the figures are fairly deeply grooved the punctures can be seen. They are well preserved. The large figure is evidently a member of the Koala totem, in the form of the animal, wearing a rayed headdress, a not uncommon feature of animal figures in the Sydney-Hawkesbury district engravings. Below it is a clearly defined U-shaped engraving.

Recorded by Mr. and Mrs. A. D. G. Downer, 3rd January, 1944.

GROUP XX. CALGA. (Figure 8.)

This figure is situated half-way down the eastern side of a deep gully near Calga, parish Narara, county Northumberland, half a mile due north of the Peat's Ridge road at a point about two and a half miles from the Pacific Highway. It is the only engraving on a large flat but sloping rock. Although it is fairly deeply grooved, the punctures can be seen and it is well preserved. At first glance this figure appears to be that of a native cat, a rare subject among the Sydney-Hawkesbury district engravings, but the various forms of this mammal, and of the rodents and opossums, have long tails and pointed heads, and all bear noticeable whiskers on the snout. When looked at from the posterior end its body and posture suggest a wallaby, but in actual fact it resembles the Tasmanian Devil, now extinct in Australia, more than any other living mammal. Should it represent a native cat it is probably the one known as the Tiger cat; the lines on the body may represent the markings, but they are also present on large engravings of kangaroos between Webb's Creek and the Macdonald River, and may indicate how the body of the animal was shared up among hunters. On the other hand, these lines may have a ceremonial significance.

Discovered and recorded by Mr. and Mrs. A. D. G. Downer, 3rd January, 1944.

Remarks. There are several points of interest in relation to the above groups to which attention should be drawn. One is the frequency with which engravings are associated with axe-grinding grooves, a fact which indicates that axes were possibly used in the intermediate process of gashing the rock between the punctures, and also that many of the figures and groups are not of a sacred nature but were done to satisfy an aesthetic urge while the axe grinding was in process; on the other hand, some groups associated with axe grooves are undoubtedly of a sacred nature. Another point is that numerous groups are situated in the midst of swamps, often in secluded spots from which there is a restricted view as in the case of group XIV; swamps are good hunting grounds for mammals, birds and reptiles.

The groups herein described are reproduced to a scale of eight feet to one inch, the same as that in Campbell's Memoir (1899). The descriptions of the groups are from left to right. The original recordings, made to a scale of from $\frac{1}{2}$ in. to 1 in. to the foot, are filed at the Australian Museum.

Acknowledgments. My thanks are due to Mr. F. L. S. Bell and to Mr. and Mrs. A. D. G. Downer both for assistance in the recording of some of the groups and for transport to them. Appreciation is also expressed of the work of Master Peter Slack, who trudged many miles through rough country at the head of Middle Harbour Creek to discover and record groups X-XIV in an area in which engravings had not previously been found.

REFERENCES.

- Brodsky, I: "Congenital Abnormalities, Teratology and Embryology: Some Evidence of Primitive Man's Knowledge as Expressed in Art and Lore in Oceania", *The Medical Journal of Australia*, 1943, page 417.
 Campbell, W. D.: "Aboriginal Carvings of Port Jackson and Broken Bay", *Memoirs of the Geological Survey of N. S. Wales*, Ethnological Series, No. 1, 1899.
 McCarthy, F. D.: "Records of the Rock Engravings of the Sydney District, I-VII", MANKIND, III, 1941, 42-56, Plates I-M.
 McCarthy, F. D.: "Catalogue of the Aboriginal Relics of New South Wales, Part I. Rock Engravings", MANKIND, III, 1942-1943, 91-99, 121-27.

F. D. MCCARTHY.

PROCEEDINGS OF SOCIETIES.

NEW SOUTH WALES.

New Guinea and Its Natives. By Mr. Ward-Oakley, Resident Magistrate, Madang. *Delivered at the meeting held in the Department of Anthropology, University of Sydney, on 31st May, 1944.*

The lecturer gave a review of the administration of the natives in the Territory of New Guinea since it became an Australian mandate. He spoke of the ill-effects of annual patrols to villages, and of how districts were now controlled by the establishment of base camps, frequent patrols, and councils of chiefs and leading men. On the Central Plateau about 60,000 out of 250,000 natives had been brought under control. He said that in New Guinea the missions should be restricted to districts—rival denominations should not be allowed to operate in the same area because this practice had led to bitterness, even to strife and loss of life. In his opinion, the indentured labour system could not be abolished, but could be improved by making it possible for the natives to return more frequently to their villages with their earnings; the system benefited the native workers' health, although it also had a disintegrating effect upon the social and economic life in the villages. This latter effect, he thought, was inevitable. In relation to land settlement Mr. Ward-Oakley said that there was very little suitable land available in the Territory apart from that held by the natives, and this could not be alienated. Before a large body of white people could be settled in New Guinea, markets would have to be guaranteed for their produce. He pointed out that gold-mining would be developed in the mountainous country after the war. Prof. A. P. Elkin, who presided, thanked the lecturer for his most interesting address, and mentioned that the indentured system for native labour had been abolished in Fiji and would ultimately have to be abandoned in New Guinea.

Australia : Ethnology.

Dunbar.

Notes on the Ngemba Tribe of the Central Darling River, Western New South Wales.

By Mr. G. K. Dunbar. (Concluded.)

Spears were fashioned from saplings, up to fourteen feet long, of mulga and gidgee mainly. The grip for the hand was roughened, and some had a hollow at one end for the peg of the spear-thrower. Fighting spears were called *murru*, and hunting spears *threel*. Barbs of wood, bone or stone were set in a groove in the shaft, bound with kangaroo sinew, and gummed with beefwood (*Grevillea striata*) gum. I believe that stone barbs were used for fighting spears—the death-spear with thin chips of stone set along each side of the shaft near the head—by the natives from somewhere in the vicinity of Cobar across the Darling River, north-west through Tibooburra and Mount Brown into the desert country of Cooper's Creek. The stone barbs were shaped like an elongated tooth by the maker.

Hunting spears were made with a wooden barb.

Fish spears had two prongs, barbed or serrated for from eight to nine inches from their points. In all cases, the points of the spears were hardened in the fire before the barbs were attached.

The spear-throwing stick or *wumurah* was generally shaped as in the attached sketch, and depended on the individual whether it was broad or narrow, but the majority were broad. The point which propelled the spear was an insert fastened in with beefwood gum. The other end had a large blob of beefwood gum and kopi so as to give a good grip at the heel of the palm. These *wumurahs* were invariably carved or decorated.

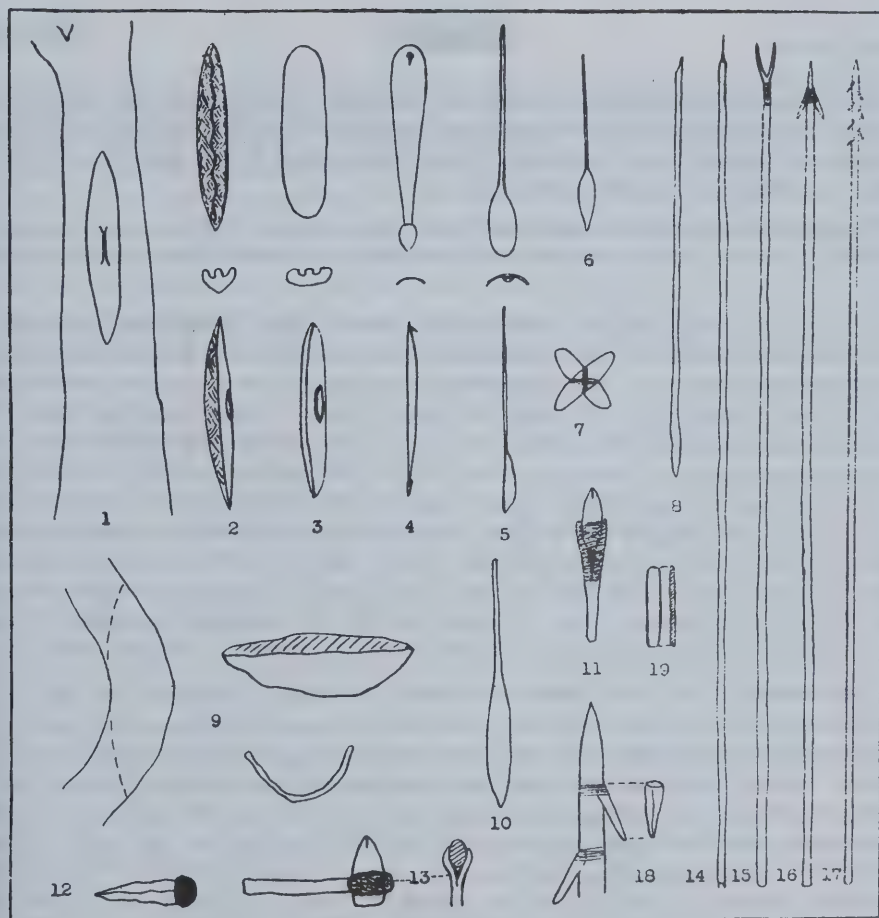
The *eeliman*, or shield, was of two types, one for spear attack and one for warding off boomerangs and throwing sticks. The former was wider and flatter than the latter. Both shields were cut out of the solid part of a living tree ; the bark was removed, the shape marked out, and the wood gradually shaved from the back of the shield until there was very little left to remove. At this stage the tree trunk was cut through, and the final work was done on the ground. This applied to both types of shields.

The *pbundi* was a well-shaped weapon, similar to the sketch, symmetrical, and was not ornamented by carving. It was blackened with charcoal and fat or oil. The sketches will convey the shapes I remember.

Domestic Implements. Awls were made of the thigh bone of the kangaroo or emu. The bone awl, mussel-shell and stone knives, *irrun-gin*, were fitted with a grip of string wound round one end or side, and cemented with beefwood gum.

The implement, which I call a grub-shovel, was cut out of the living tree, and must have been a task with stone tools, because the blade was twelve to fourteen inches long by six inches wide, and the handle two feet longer. It was shaped like a paddle, and made by the men for use by the women to dig out grubs and other foods in the ground. The women also carried a digging-stick, *kun-ai*, approximately five feet long, undecorated, and made of mulga wood, hardened and pointed at each end ; it was used as a weapon of offence and defence, and for digging out bilbies, yams, roots, etc., in the ground, as a staff, and for handling the fire in cooking operations.

Containers were made by cutting out with a stone axe a suitable elbow from the fork of a hollow tree, or from a bent branch, and shaping it as required.



- Figure 1. Tree showing method of cutting out a shield.
 " 2. Parrying shield (*pbundi*).
 " 3. Broad shield (*Eeliman*), used for stopping spears.
 " 4. Spear-thrower.
 " 5. Grub-shovel.
 " 6. Dart or weet-weet.
 " 7. Cross-boomerang.
 " 8. Woman's digging stick, used also for fighting.
 " 9. Bark container and method of cutting bend of branch.
 " 10. Club, used for striking or throwing.
 " 11. Hafted axe.
 " 12. Stone graving tool.
 " 13. Hafted chisel.
 " 14. Plain spear.
 " 15. Two-pronged fishing spear.
 " 16. Hunting spear fitted with two wooden barbs.
 " 17-18. Hunting spears, fitted with stone barb, showing method of mounting.
 " 19. Wooden spear-barbs.

Mrs. F. D. McCarthy, del.

The women carried enormous loads in the *book-a-gha* or *gooli*, a net bag shaped like a miniature hammock slung across the back over one shoulder and the head, leaving the right arm free, and knotted across the breast. Babies were carried in this bag also until able to toddle, when they were carried on the thigh.

Water was carried in skin water bags, made from opossum, bilby or wallaby skin, the animal being skinned carefully from the neck down and the holes tied up to make an elongated bag.

Personal decorative twine was made from the wearer's hair. Fishing line and twine for making nets were fashioned from opossum hair, and from the inner bark of the kurrajong tree, *Brachychiton populneus*. The aged women's teeth were worn to the gums from chewing kurrajong bark to make it pliable enough to spin into twine. This spinning was done on the naked thigh, and because of the constant use of the thigh for this purpose, the women were ambidextrous and changed from right to left as the skin became irritated. All the twine made by the aborigines was two-ply. The material, whether kurrajong bark fibre or opossum hair, was fed by the left hand (in the case of the right thigh being used) into the right hand, which at the same time twisted both strands tightly, and on the back stroke of the hand, twisted the two formed cords into one, and very tightly. Thousands of yards of twine would be made by women each year. Nets were made by the women for the capture of game, and were meshed with gauge and needle exactly as we do to-day and with the same knot.

Canoe-making. The canoe, *murin*, was almost invariably made from the bark of the *Eucalyptus rostrata* or River Red Gum. Because it is practically impossible to strip the bark without it splitting from a bent tree large enough to make a canoe, a straight tree was selected. A fallen limb, with a suitable fork, was placed against the tree to form a ladder (see sketch) for the makers, who cut a channel about two inches wide in the tree to mark out an oval sheet of bark approximately six to eight feet long and four feet wide, as shown in the sketch. The makers then commenced to strip the sheet by inserting the point of a digging-stick beneath the edge of the bark, gradually lifting or prizing it up until the sheet was loose along one side; then by using two digging-sticks, the bark was gradually lifted from the tree without splitting, and lowered to the ground. It was immediately inverted and placed over a small fire (see stage 1). This fire dried out the sap, hardened the bark, and caused it to curl (see stage 2). As soon as it curled, stretchers previously prepared were inserted, and it was again lowered over the fire, this time to force the ends to contract and curl inwards in the same fashion as the sides, thus forming a dish-shaped sheet (stage 3). All loose bark, gum, etc., was scraped off. If, as often happened, the bark refused to contract and curl inwards at the ends, clay from the river bank was puddled and placed round the edge to make sufficient freeboard as in (A). The canoe, when finished, was a flat dish as in (B), propelled by means of a long stick used as a punt-pole by pushing against the bottom in shallow water, or as a paddle on alternate sides if in deep water. The passengers squatted in the canoe, but the navigator stood upright.

In making weapons or any other article, the aborigine had all the time necessary, because the task need not be finished to-day or to-morrow or next week. It was commenced, and when the maker tired, the work was dropped and not picked up again until he or she felt like doing more.

Hunting and Food. Hunting was the men's pastime, but the main food supply was secured by the women. Leaving camp in the early morning for the place selected for the day's hunt, the women spread out and advanced through timber or scrub, or across the plain, in a straight line. Everything was fish that came to their net. Birds' eggs, iguana, lizard or anything that was edible was gathered and stowed into the *ghooli* or net bag hanging across each woman's back. On the return journey back to camp, seeds were gathered for bread. These might be the seeds of the white wood, mulga, or various acacias, or grass seed. Contrary to common belief, nardoo was not used except in a drought, when other seed was unobtainable. No attempt was made to winnow the grass seed other than the removal of the large husks from it, but the whole was ground up, mixed into a paste with a little water, and cooked in the ashes.

At each permanent camping or watering place, grinding stones were left for use so that they need not be carried, but moving from place to place the women carried a small pair of grinding stones among the many other essentials.

Emus were brought close to the hunter by a decoy horn made from a piece of hollow coolibah, *Eucalyptus microtheca*, tree rubbed down with stone until about the thickness of heavy cardboard, with one end almost stopped up with beefwood gum, a circular hole being left. By blowing across this hole, the hunter made a sound which attracted emus from anywhere within hearing distance. This enabled a small party of hunters to obtain a good bag. A large cord net set up like a triangular palissade was used to catch emus, which were driven into it and despatched with clubs. On the plains, emus were enticed close to the hunter, who lay on his back, waving his legs in the air. Wild ducks were meshed by a net suspended across a narrow portion of the waterway at dusk. By means of an imitation of the whistling eagle-hawk, *pipitcher*, and the adroit use of the return boomerang, the ducks were kept low and flew into the net, where they were captured by willing hands.

The women of the Kuppi and Ippai sections were unable to swim. Whether their totem prevented them from doing so I do not know. Kumbo and Murri of both sexes were experts in the water. They were all expert fisherwomen and canoe-makers.

Kangaroo was hunted in the conventional way, the hunter creeping as closely as possible and then spearing the game. He muttered a spell as he did so, or chanted a song praising the animal under his breath, supposed to keep the kangaroo still.

The men were adept at catching wild duck in reedy swamps or in billabongs. Wild rice stalks were inserted in the head-band until the head was covered, and then by swimming or paddling slowly, the ducks were approached. The wearer of the camouflage left it floating on the water, and, swimming beneath the surface, reached up and caught the ducks by the legs, wringing their necks under water, and fastening the game in his belt, he continued gathering his dinner as long as he was able to remain under water. Some of them I have timed over two and a half minutes. They also stayed under water and breathed through a hollow reed when lying concealed waiting for game to come close.

All food was shared, and the main meal was always in the evening.

The wild orange, *Capparis Mitchellii*, wild lemon, *Canthium oleaefolium*, the emu apple, *Eremophila longifolium*, fruit of the colane tree or grue apple, *Owenia acidula*, the quandong, *Fusanus acuminatus*, the seed of a vine popularly known as the cotton pod, *Cuk-er-ger*, which was picked in a green state and the inside of the hull and green seeds eaten and the

cotton-like portions discarded. The seeds of the kurrajong were eaten, and also water-lily roots, mulga apples and various yams. Warrigal cabbage (spinach), sourgrass (sorrel), trefoil and crowsfoot filled up in their season. In time of stress, water was obtained from roots by cutting them into short pieces and blowing the sap into a coolamon.

Fish were caught both with the line held in the hand and with a set line, and also speared. The fish hooks were fashioned from small mulga forks, or from a bent piece of mulga, attached to a set line and embedded in a mussel; the wood straightened out due to the digestive process of the codfish, who made a meal and went to sleep to digest it, thus impaling himself. The river crayfish and mussel also were important articles of diet. Some of the kitchen-middens on the Darling River show where many generations have gathered mussels from the mud and cooked them. Crayfish were caught by puddling one of the burrows and making the water muddy; the crayfish immediately came to the entrance of the bolting hole and was caught. The Blue Heron catches crayfish the same way, using his foot to puddle with, and his bill to catch the crayfish.

Grubs, both from rotten wood and living trees, such as the white wood, *Atalaya hemiglauca*, and leopard wood, *Flindersia maculosa*, and acacia, and the various varieties of mulga, and grubs dug from the ground were important articles of food.

In the proper season the wild bee was much sought after, not for the honey supply so much as for the bee-bread the nest contained, this bee-bread being the pollen of various flowers collected by the bees as food for the young brood and stored in the form of marble-like balls coated with wax. The bees' nest was found by carrying water out to a dry open space and spilling some of it on the ground. In a few moments native bees would alight to partake of the moisture. These were captured, and with the aid of the juice of the milk weed (a common pest in suburban gardens) a piece of thistle-light material was attached to the bee's abdomen. The hunters then got ready—the women to run alongside the hunter and tell him when an obstacle was in his road, i.e. to jump or deviate right or left, and the man to keep his eye on the piece of fluff attached to the bee, which was then released and quickly led them to the nest. One aborigine I remember was named "*Pulla pullar*." This was because he was near-sighted, and when he was a young man he followed a white butterfly instead of the bee, and was named "*Butterfly*," *pulla pullar* being the aboriginal name for the common meadow white butterfly so abundant in the western country in the summer.

Dogs were used to locate opossums by scent, and the hunter could tell immediately whether the opossum was at home in the hollow or not by examining the bark of the tree. Whilst the aborigine kept many dogs, they were not used a great deal in hunting, except to catch wounded game, to locate opossums in timber country, and as watchdogs warning of the approach of any stranger. The dogs were mostly the property of the women.

The *bilby*, a small kangaroo rat like a burrowing marsupial, was very plentiful and was an important article of food obtained by the women, because it was possible to dig it out of its burrow. The echidna, *tiki piller*, was much esteemed as a food, as were the iguana and carpet snake, *yuppi*.

When travelling, no article of food was missed. Whoever was closest to a reptile or whatever was to be garnered stepped aside without any fuss or bother, collected it, killed it if necessary, and either stowed it in the dilly bag or handed it to someone else to carry, then resumed his or her place in the line, hardly losing a step.

They were all trackers, and knew the age of any track made by animal or reptile or bird. The children, both male and female, were taught to track from their earliest years, and because their meal often depended upon their eyesight, that eyesight was particularly sharp. They were also taught by their elders the habits of all game and living foods, so that each was an expert naturalist, knowing every habit and trick of the hunted as far as it affected the capture.

Making Fire. The edge of the boomerang or the sharp point of a nulla nulla were both used in making fires. A dry log with a surface crack was selected, and powdered grass or very fine bark was placed in the crack ; the boomerang was rapidly sawed backwards and forwards across the crack, or the nulla nulla was twirled between the hands with considerable pressure downwards. In a few moments smoke arose, and by gently blowing with the breath a smouldering fire was produced and quickly transferred to the ground.

On the march, or when moving from place to place, a fire stick was carried and kept alight by twirling round occasionally. It consisted almost invariably of the dry root of the red gum trees, *Eucalyptus rostrata*, or the shiny leaf box, *Eucalyptus populifolia*, or coolibah, *Eucalyptus microtheca*.

Cooking. The women attended to the preparation of food, which was either broiled on the coals or cooked in a hole in the ground by means of hot stones or embers. Fish, pigeons, ducks, swans and other game were not plucked, but the viscera was removed by means of a piece of stick inserted through the vent and twisted round, and the entrails thereby withdrawn. If near a lagoon, the bird or fish was encased in mud and buried in the ashes of the fire. When ready to be eaten, the mud crust brought away, in the case of fish, the scales, or in the case of the game, the feathers.

The men were fed first and the remains were given to the women, the dogs and piccaninnies getting anything that was left over other than what they could snatch from their elders. This resulted in the children of both sexes doing a great deal of hunting in the daytime for themselves once they were able to get about. They were omnivorous in their eating habits, everything that crawled or walked being edible. Children were not restricted in totemic food until they reached the marriage age in females and the initiation age in boys.

Trade. Before tobacco was available, I understand pituri was chewed by the elder men, and was obtained from the Barkundji across the river, who, I believe, traded for it with aborigines north-west of them again. Because the Barkundji had no mountainous country or outcropping reefs with their attendant loose stone in their territory, the pituri and other things were exchanged for stone suitable for axes, adze heads and chipped implements. There was a trade route up the Warrego River through to the north-west corner of New South Wales, and thence to Cooper's Creek.

To the best of my knowledge, personal property was not exchanged, due to the belief that some of the spirit personality of the owner would always remain with the goods, and in the hands of an enemy would cause the death of the original owner ; consequently, anything exchanged was strictly negative.

Medicine and Magic. Eucalyptus leaf poultices were used for wounds, and in my time the blow-fly larva was employed to cleanse a wound which suppurated and became more or less gangrenous. Apparently this was an ancient practice. Aches, pains and swellings were dealt with in the following manner : a hole was scooped in the ground, a fire made in it, and

by means of hot stones or hot ashes and gum leaves a steam bath was created ; the patient laid down and was covered with leaves, and then more earth, until only his head protruded while he had a thorough steaming.

One or more of the elder men in every clan was credited with powers of life and death. The bone-pointing implement or weapon consisted of a piece of human thigh bone, or the thigh bone of an emu, kangaroo or brolga. The men of the kangaroo or emu totem, in the absence of human bone, used the bone of that animal. It was plastered with emu feathers, the fat of the emu, blood and bark. The user sat by a small fire at night with the naked end of the bone pointing in the direction of the one who had been condemned to die. This bone was propped up by a small stick very close to the fire, so that it became fire-blackened and charred. The bone could be used against a female as well as a male.

These medicine-men also treated various ailments with massage and auto-suggestion. Pebbles and bits of bone were apparently sucked from the patient, who became well very quickly afterwards. These men also sounded the bullroarer at ceremonies ; they were credited by the tribe as rain-makers, and bone-pointing was part of the stock-in-trade to deal with enemies who allegedly were holding back the rain.

At camp fire assemblies, when deliberating on tribal movements or raids into enemy territory, it was customary for the older men to chew a morsel of human skin and flesh, removed from beneath the arms and from the part carrying the pubic hair of some strong tribesman slain in combat. This was to render the partaker strong and steadfast in purpose and to acquire some of the wisdom of the deceased.

Broken bones were handled skilfully with a splint. The limb was straightened out, soft bark bound around it and kept in place with a mixture of blood and beefwood gum. The aborigine used the gum exuded by the beefwood tree as a cement for all sorts of uses.

For dysentery, the sap from the inner bark of a gum, *Eucalyptus intertexta*, sapling was removed with a scraper and eaten. Incidentally I have found that this is a good remedy.

Long distances were travelled periodically for the purpose of partaking of the guine apple, the fruit of the colane tree, *Owenia acidula*, which had a laxative effect. These trees only bear fruit at long intervals, but apparently with some regularity, because the tribe could always be sure of fruit when they trekked to the locality where they grew.

Communications. The message stick was used, I understood, more as a token of the bearer's authority than as containing any message, because he recited the call or instruction. Smoke signals were not used as far as my knowledge goes, because the country was scrubby and flat, and it was not possible to see smoke a great distance except from the top of Goondabooka Mountain or Mount Oxley, or the peaks towards Cobar, but smoke was used when visiting. A visitor always approached the camp down the wind, and carried in his hand a bunch of burning gum leaves ; this to be sure that he would be received in a friendly fashion, and to give ample warning of approach. The smoke taint in the air would immediately attract attention. In scrub country the women hunting kept contact with one another with an occasional "Wah-hoo." The exclamation "Yar Kail" was the aboriginal female equivalent to our feminine "oo-er" of surprise or alarm.

Games. In a season when food was abundant, much time was spent in play. A ball game played by both sexes, young and old, consisted of throwing a ball and catching it ; the ball was made from opossum skin on the same principle as a ball can be made with a

handkerchief by folding and pulling the outside cover in the one direction. The word for ball was *tuppil*, and to catch, *mummi*, and the game was called *tuppil mummi*, meaning catching ball. It was a popular game with the young people.

Wrestling was a popular pastime, and similar to our "catch-as-catch-can."

Another popular game was played by young and old of both sexes with a wooden dart about 15 or 16 inches long, shaped like a conventional nulla nulla, but with a very thin handle. It looked like an old-fashioned soda-water bottle with the pointed bottom. This game consisted of throwing the dart at a tuft of grass in such a manner as to cause it to travel with the heavy end foremost like a bullet, and describe a long parabola, the game being to bounce the dart the furthest distance. This taught accuracy and control of the muscles used in throwing both the boomerang and the spear.

Competitions were also conducted in spear-throwing. The play boomerang was thrown in contests to see how many times the boomerang would return to the thrower and he leap over it.

Timekeeping. Time was kept in the day by the sun, and in the night by the position of Pleiades, or the Seven Sisters in the northern sky, the time being reckoned by its position above the horizon. Days were reckoned by the moon, and elapsed time by the season.

Cave Paintings. There are some very fine rock paintings beneath overhanging rocks on Goondabooka Mountain. Kangaroos, emus, corroborees and other familiar objects are pictured, such as the blue-tongued lizard, stumpy-tailed lizard, or shingle back and *yuppi* (carpet snake). Women and children expressed their desire for the creation of some artistic object by filling the mouth with a mixture of *kopi* and water and blowing it over the hand placed against a rock. In some cases red ochre was used for this purpose, as well as *kopi*, and some of the drawings are red outlines, some white and some with charcoal. I do not think they had any tribal significance other than just recording an urge to make a picture—something like the small boy with a piece of chalk. I never knew of initiated men making hand prints.

Songs. As I have already mentioned elsewhere, any happening, either tragic or comic, or of general interest to the tribe, was recorded and remembered in the form of a song. One of the songs, of which all trace of the origin had been lost, related to a white girl who had been found by the tribe, and who complained that she did not like them, or their big noses, and that she came from England, a long way away over the salt water. She cried all day and asked to be returned to her own people. Because the aborigines had no word for "salt water" or "England," "*tharl*" was substituted for "salt," and "*Englun*" for "England." This would appear to be a corroboree record of a lost child somewhere in their territory in the early history of the Bogan River Company, who originally took up the river land which was part of the home of the tribe. The words are:

Mindyando yar-kare-ah. Yar-kail

Goorie-mai. Putte putte girl

Countri-mun yendee.

Mitchie en-en-ee go-rah-rah

Minyando tharl water. Mur-ong-yarah

Muratah murapy

Englun na-pore ynn-an-ne.

Since writing the above I have read Mrs. Daisy Bates' book, "The Passing of the Aborigines." On page 105, at the commencement of Chapter 10, Mrs. Bates puts into a few words exactly my conception of the aborigines, as follows:

"The Australian follows the line of least resistance with the white man. He will always respond as desired to a leading question, eager to please, whether he understands it or not . . . A casual soul, he knows no urgency. Yesterday and to-day and to-morrow are all the same to him . . . His unconscious confidences are by far the most valuable."

G. K. DUNBAR.

PROCEEDINGS OF SOCIETIES.

NEW SOUTH WALES.

The Carnarvon Ranges, Queensland. By Mr. D. A. O'Brien. Held at the Department of Anthropology, University of Sydney, 3rd February, 1944.

The lecturer gave an account of the organization and experiences of an expedition which visited the Carnarvon Ranges in 1943, under the auspices of the Queensland Branch of the Royal Geographical Society of Australasia. He described the topography and vegetation, the aboriginal tribes of the area and their gradual disappearance, and mentioned some interesting caves in which there are series of rock paintings and stencils. The lecture was illustrated with a large series of coloured lantern slides, which included a magnificent set dealing with the scenery and physiography. A vote of thanks was moved by Mr. F. D. McCarthy, who mentioned that the rock paintings in the Carnarvon Ranges were similar to those in the rock-shelters of the Sydney-Hawkesbury district of New South Wales; it was seconded by Dr. C. Anderson. Professor A. P. Elkin presided.

Film Evening. By courtesy of the Vacuum Oil Company Pty. Ltd., held at the Company's Theatre, Sydney, 16th March, 1944.

A most interesting evening's entertainment was enjoyed by an attendance of eighty-five members and their friends. The films were widely varied in subject, and comprised the following: *Where the Power God Dwells*, the story of the development of the oil fields in Palembang, Sumatra, which showed many aspects of the life of the natives living along the Palembang river; *Bali Dancers*, a record of the ancient *Legong*, *Kris* and *Barong* dances, and the modern *Djanger* dance-drama, performed principally by the young men and women; *Arctic Thrills*, which filmed the capture of a polar bear for a zoo, and gave some interesting glimpses of the domestic life of the Lapps; *The Great Barrier Reef*, which illustrated the animal life of the reef, and the Palm Island Aboriginal Reserve and some of its occupants, in colour; *Brown Men and Red Sands*, a magnificent film in colour taken by Mr. C. P. Mountford, of Adelaide, which recorded the little-known region of Central Australia in the vicinity of Mt. Olga and Ayer's Rock, together with the life of the native inhabitants. Dr. A. Capell, Vice-President, was in the chair, and on behalf of the Council and members of the Society expressed our debt to the Vacuum Oil Company for its courtesy in providing such an instructive evening's entertainment in congenial surroundings.

Australia : Archaeology.

McCarthy.

Catalogue of the Aboriginal Relics of New South Wales. Part II. Cave Paintings. (Concluded.)

By Frederick D. McCarthy.*

KURING-GAI CHASE NATIONAL PARK.

68. Smith's Creek, on north bank, 8 ft. above H.W.M. Contains fish in solid red, three human hands in red stencil. Campbell, W. D.,⁽¹⁾ p. 53, pl. XII, fig. 14.
69. Smith's Creek, on north bank, one and one-quarter miles above junction with Cowan Creek, and 40 ft. above H.W.M. Facing south-west, 24 ft. long. Contains dingo (?), wombat (?), two shield-like figures in black lines, and a fish in solid black drawn across dingo. Mathews, R. H.,⁽¹⁶⁾ XI, 92-3, pl. I, fig. 6.
70. Smith's Creek, on north bank, on ridge at head of a valley above Terrey's portion 71. 60 ft. long. Contains charcoal drawings of a man, a wallaby, and an unidentified figure. Campbell, W. D.,⁽¹⁾ 55, pl. xx, fig. 7.
71. Smith's Creek. Drawings of man and woman in red. Informant, W. J. Walton.
72. Smith's Creek, on south bank. Contains nine human hands in white stencil. Informant, W. J. Walton.
73. West Head, near Euro Trig. Station. Contains female hand stencils. Informant, W. J. Walton.

MANDEWAR COUNTY.

74. Narrabri, at headwaters of Kerrigundi Creek, Wittagoona Station, Pulpulla Mountains. Contains paintings of human beings, goannas, emus, kangaroos, etc. Richards, C., *Sci. of Man*, N.S., X, 1938, 27.

NAPIER COUNTY.

Coolah parish.

75. Leadville, Coolah Valley. No details. Some of the figures have been cut out and the others disfigured by visitors' names, etc. Informant, Mr. Hughes.

NATIONAL PARK.

- 76-77. Cabbage Tree Creek, two rock-shelters on eastern bank. Facing west. One is 20 ft. long, and contains six human hands in red stencil and other faded figures; one is 36 ft. long and contains 30 human hands (two conjoined) in red stencil. Harper, W.⁽¹⁰⁾
78. Audley, beside road down ridge from National Park Station. Human and animal figures. Recorded by W. H. P. Kinsela.

NICHOLSON COUNTY.

Redbank parish.

79. Mawonga Station, 6 miles from homestead, north-west of Hillston. Paintings in caves. Informant, J. Mackay. There is some doubt about this site, as the owner of Mawonga Station has informed me that there are no caves on the property.

NORTHUMBERLAND COUNTY.

Auburn parish.

80. Macdonald River, on portion 44, one-quarter mile from river. Facing north-east, 12 ft. long. Contains "sun" figure in white (14 rays), and 21 human hands (two conjoined at wrists) in white stencil. Mathews, R. H.,⁽¹⁷⁾ XXV, 157-8, pl. xiv, fig. 2.

Congewai parish.

81. Congewai Creek, on Mr. Crawford's property. No details. Informant, W. J. Enright.

* Published by permission of the Trustees of the Australian Museum, Sydney.

Corrabare parish.

82. Corrabare Forest Reserve. No details. Informant, W. J. Enright.
83. Narone Creek. Three miles from Wollombi, on northern side of road near cr. Large charcoal drawing of emu. Informant, W. J. Enright.
84. Narone Creek. On portion 15, near Wollombi township, and facing north-e. 66 ft. long. Contains "sun" figure and shield in white, numerous human ha. a human foot, three boomerangs, and a hafted axe in white stencil. Hamme P. T.,⁽¹⁾ 176, pls. xiii-xv.
85. Narone Creek. On R. Milsom's grant. 12 ft. long. Contains 19 human ha. (two conjoined) in white stencil, one human hand in yellow stencil, and s. red and black lines. Enright, W. J., ⁽¹⁹⁾ 632, pl. C, fig. 9.
86. Narone Creek. 70 yards from preceding cave, on Mr. R. Milsom's grant. 12 long. Contains 14 human hands and one human foot in white stencil, trace red and black lines. Informant, W. J. Enright.
87. Narone Creek. Contains nine male and one female human figures, snake, human hand stencil, etc., and others on rocks nearby. Informant, W. Enright.
88. Narone Creek. Contains two rows of human figures (one set of seven with sev. women, one holds a boomerang, one holds a shield; the other set is of men), one human hand and one foot stencils. Informant, W. J. Enright.
89. Wollombi, near township, above Cessnock Road and facing west. 60 ft. lo. Contains a number of human hand and other stencils in white, etc. Hamme P. T.,⁽⁹⁾ 174-6, pls. xiii-xiv.
90. Sweetman's Creek, on Mr. Henry Wetzler's property. Informant, W. J. Enright.
91. Coolawine Creek, on western arm, near Wollombi. No details. Contains figure a lyrebird (?), etc. Informant, C. Lynch, per W. J. Enright.
92. Wollombi-Maitland Road, on portion 18. 42 ft. long. Contains a marsupial (o. which a human hand is stencilled) and a man in black lines; boomerang, liz. and two bird tracks in black outlined with red; women in red outlined w. white; 12 left, and 13 right, human hands in white stencil; four left, and right, human hands in yellow stencil; other figures indistinguishable. W. Enright,⁽¹⁹⁾ 632, pl. C, fig. 8.
93. Wollombi Brook, about 400 yards from, on portion 11. Facing north-west, 64 long. Contains nine left human hands in white stencil; three left, one right human hands in yellow stencil; snake in white outline; four three-prong figures and a conical object in black outlined with white. Enright, W. J. 631-2, pl. C, figs. 7-7a.
94. Wollombi-Cessnock Road, about 10 chs. from eastern side, on ridge. Facing north-west, 110 ft. long. Contains 51 human hands and a club in white stencil; three-rayed design, a bag-like figure, a fish, a foot-like figure and a series of short vertical lines, in white. Informant, W. J. Enright.

Cowan parish.

95. Wiseman's Ferry, on northern bank of Hawkesbury River, and near first house east. No details.
96. Bar Point, situated on ridge of Point about 9 chs. from Hawkesbury River, portion 3. Facing south-west, 41 ft. long. Contains about 12 human hands in white stencil. Mathews, R. H.,⁽¹⁶⁾ 91, pl. I, fig. 3.
97. Mooney Mooney Creek, on western shore of Two Dollar Bay. Contains th. human hands in black (?) stencil, wallaby's head in solid red.
98. Mangrove Creek, situated two miles up creek on eastern bank. 25 ft. long. Conta. two marsupial figures in red, a "sun" figure (half only), and human figure. Informant, H. J. Cantwell.

Hay parish.

99. Wattagan Creek, on spur on northern side of road, on Mr. Langan's property. Two rock-shelters side by side, containing a large number (up to 70 in one cave), of human hands in white stencil. Informant, W. J. Enright.
100. Wattagan Creek, near top of ridge, about half-mile from Mr. McMullen's house beside highway, and 150 ft. above tributary creek. 40 ft. long. Contains "sun" figure in white, and 12 human hands and one boomerang in white stencil. Informant, W. J. Enright.

Kincumber parish. Northern shore of Brisbane Water.

101. Pretty Beach, on ridge about 10 chs. above H.W.M. Facing north, 15 ft. long. Contains charcoal drawings and human hands in white stencil. Informant, H. Connelly, Fisheries Inspector.
102. Daly's Point, on top of headland, half-mile from Point. Facing west, 35 ft. long. Contains large series of small charcoal drawings of fish, mammals, etc., in black outline, some infilled. Nearby in an adjoining rock-shelter is a similar drawing of a wallaby. Associated with rock engravings. Informant, H. Connelly.
103. Saratoga, two rock-shelters on private property adjacent to township, and 30 yards from one another. Each 15 ft. long. Contain small charcoal drawings in outline, some infilled, of fish, human beings, etc. Informant, H. Connelly.

Kooree parish.

104. Portions 57 and 58, near boundary with Popran parish. Two rock-shelters containing human hands and feet, hafted axe, in white stencil. Informant, R. McKenzie.

Lockyer parish.

105. Cuttamuttan Creek, about 80 yards from right bank, and 1 mile west of portion 63. 33 ft. long. Contains a man, top half of man, and two clubs (?) in red, infilled with lines; man and bird in black lines; "sun" figure (12 rays) and marsupial in white lines; 130 human hands, hafted axe, club, and spear in white stencil. Enright, W. J.,⁽¹⁹⁾ 628-9, pl. C, fig. 2. *In Point Claron Reserve.*
106. Bear Creek, situated near Mr. M. Dean's farm. No details. Informant, W. J. Enright.
107. Mogo Creek, on New Farm. No details. Informant, W. J. Enright.
108. Mount Manning. No details. Informant, M. Dean.
109. Mogo Creek, on hill 300 yards west of junction of Mogo Creek and portion 14. Facing north. Contains man and other figures in black lines, white, etc. *In Point Claron Reserve.* Enright, W. J.,⁽¹⁹⁾ 630-1, pl. C, fig. 5.
110. Reedy Gully, tributary of Mogo Creek, and on portion 40. Facing north-east, 26 ft. long. Contains upper portion of human figure in red lines; two marsupials in white lines; three left, and four right, human hands in white stencil. Enright, W. J.,⁽¹⁹⁾ 630, pl. C, fig. 4.
111. St. Alban's Road, about 1 mile south of portion 3. Facing north, 80 ft. long. Contains two men and a kangaroo in red and black lines. Enright, W. J.,⁽¹⁹⁾ 629-30, pl. C, fig. 3.
112. Portion 14, about one-quarter mile east of. , 117 ft. long. Contains two dingoes, kangaroo-rat, six rat-like mammals, wallaby, and bullroarer (?) in black outline; a woman, man, two marsupials, two birds and two other figures in black, infilled with lines. Enright, W. J.,⁽¹⁹⁾ pl. C, fig. 6, p. 631.

Mandolong parish.

113. Martinsville. No details. Informant, Mr. Pringle, per W. J. Enright.
114. Broken Back Range, south side of. No details. Informant, Mr. Pringle, per Mr. W. J. Enright.

Milbrodale parish.

115. Oakey's Basin. No details. Informant, Constable Watts, per Mr. W. J. Enright.
116. Bulga Creek, on west bank, on portion 2 (Mr. L. Dodd's property), and 1 mile from Singleton Road. Facing north-east, 60 ft. long. Contains culture-hero, male (8 ft. high, 17 ft. between finger tips), in red with white ornaments; several sets of vertical white lines; three boomerangs, two hafted axes, club, and three left, three right, human hands in white stencil. Mathews, R. H.,⁽¹⁰⁾ XI, 90-91, pl. I, fig. 1; ⁽¹⁴⁾, 353-6, pl. xix.

Millfield parish.

117. Cedar Creek, on right bank of Bally's Arm, about 3 miles above junction with Wollombi Brook, and 25 chs. west of portion 6 (north-west corner of). Facing north-west, 46 ft. long. Contains man holding boomerang, birds, snake, three porcupines (?), six human feet, fish, "sun" figure, and several sets of vertical lines, in black, some infilled; human hand, hafted axe, and boomerang, in white stencil. Enright, W. J.,⁽¹⁹⁾ 627-8, pl. C, fig. 1.

Patonga parish.

118. Koolewong, on portion 122 (Mr. Murphy's property), near top of north side of spur. Facing north, 30 ft. long. Contains several fish in black outline, about 12 fish in black lines, infilled, with faded red outlines. Campbell, W. D.,⁽¹⁾ 72, pl. xxviii, fig. 6.
119. Koolewong, on portion 122 (Mr. Murphy's property), near top of north side of spur, near preceding site. Contains approximately 30 human figures, mostly males, boomerang, three fish, shield, etc., in black, some outlined with red; eel and bark canoe (?) in black outline. Campbell, W. D.,⁽¹⁾ 72-3, pl. xxix, fig. 1.
120. Mooney Mooney Creek Reserve, about 200 yards up slope behind Reserve. 15 ft. long. Contains about 20 human hands in white stencil.
121. Woy Woy, 1 ch. from H.W.M. in middle of headland separating North Arm of Woy Woy from Brisbane Water. 200 ft. long. Contains four parrying shields (?), fish, three boomerangs, human figure, etc., in red, and other figures in black. Disfigured by visitors' names. Campbell, W. D.,⁽¹⁾ 73, pl. xxix, fig. 2.

Popran parish. On Mangrove Mountain. Informant, R. McKenzie.

122. Ironbark Creek, near portion 134. Charcoal drawings.
123. Ironbark Creek, beside portion 134. Stencilled human hands.
124. Koree, on portion 85. "Sun" figure, human hand stencils, etc.
125. Popran Creek, on portion 140. Human hand stencils.
126. Popran Creek, on portion 180. Charcoal drawings.
127. Popran Creek, on portion 180. Charcoal drawings and human hand stencils.
128. Shakey's Forest, near Koree, on Reserve 43415. Charcoal drawings and human hand stencils.
129. Shakey's Forest, near Koree, on portion 108. Human hand stencils.
130. Worley's Creek, beside portion 129. Human hand and foot stencils.
131. Worley and Mangrove Creeks, junction of, beside portion 36. Charcoal drawings.
132. Worley's Creek, on portion 178. Charcoal drawings.
133. Portion 116. Human hand stencils.
134. Portion 85. Charcoal and red-ochre drawings.
135. Native Flora Reserve No. 10193, near a creek. Human hand stencils.

St. Alban's parish.

136. Portion 10. Facing north-west. Contains man, upper part of woman, wallaby or kangaroo, and upper part of another one, in solid black; human foot in white stencil. Mathews, R. H.,⁽¹⁰⁾ X, 65, pl. ii, fig. 7.

Spencer parish.

137. Sentry Box Reach, Hawkesbury River, a few hundred yards from H.W.M. on eastern bank. Contains human figure, emu, kangaroo, and shield.

Wallambine Parish.

138. Macdonald River, on west bank, one-quarter mile from highway and from Mr. G. R. Jurd's house, on slope of ridge. Contains seven human hands in white stencil, over which are drawn three human figures in white lines, infilled, and a boomerang. Informant, G. R. Jurd.

Yango parish.

139. Laguna, on ridge behind garage, 2 chs. from St. Alban's Road. 8 ft. long. Contains 25 human hands and boomerang in white stencil. Informant, W. J. Enright.
140. New England, below Yango-Finchley Trig. Station track. Contains drawings in white. Informant, W. J. Enright.
141. Stockyard Creek, about 2 miles up creek from Mr. Sylvester's house, near highway. 25 ft. long. Contains 32 human hands in white stencils (some over others), sets of five, two and 13 short vertical lines, and a row of spots, in white. Informant, W. J. Enright.
142. Stockyard Creek, about 2½ miles up creek from Mr. Sylvester's house near highway. Six human hands in white stencil. Informant, W. J. Enright.
143. Wollombi, about 1 mile from along highway to St. Alban's, on Mr. Andrew's property. 10 ft. long. Contains human figure in red, and six human hands in white stencil. Informant, W. J. Enright.
144. Yango Creek, at top of high ridge at entrance to valley, north-west of Wollombi township. Facing south, 40 ft. long. Contains two kangaroos hopping in file, with a man jabbing a spear into the second one, two fish, in solid red outlined with white. Informant, W. J. Enright. McCarthy,⁽¹²⁾ photograph.
145. Yango Creek, about 2 miles from junction with Wollombi Brook, and 100 yards from creek. Facing north-west. Contains man with headdress (?), spears (?), and six human hand stencils. Informant, W. J. Enright.

PHILIP COUNTY.

Comiala parish.

146. Wollar, on White Munghorn. Contains human hands in red stencil. Informant, Mr. J. Milliken.

Coolcalwin parish.

147. Cox's Creek, on west side of ridge separating Davis's Swamp from, quarter-mile east of eastern boundary of portion 49. Facing north-west, 23 ft. long. Contains five left and three right human hand stencils in red. Mathews, R. H.,⁽¹⁶⁾ XI, 94, pl. I, fig. 8.
148. Cox's Creek, on end of spur forming sharp bend of creek, on and near portion 65. Several rock-shelters, the principal one contains 96 human hands, mostly impressions, but some red stencils; club in red stencil, with looped line attached; club in red. Mathews, R. H.,⁽¹⁵⁾ 149, pl. viii, fig. 2.
149. Jolly's Downfall Creek, on portion 41, about 10 chs. from creek. Facing north-west, 14 ft. long. Contains 14 human hands, human foot, and two boomerangs in red stencil. Mathews, R. H.,⁽¹⁸⁾ 477, pl. X, fig. 2.
150. Cox's Creek, 8 chs. from right bank, and 6 chs. north of portion 3. Facing south-east, 56 ft. long. Contains 17 human hands in red stencil; tortoise in solid white; four vertical white lines 7 in. long, and four human hands in white stencil, on reddened surface. Mathews, R. H.,⁽¹⁶⁾ X, 65, pl. ii, fig. 8.

Growee parish.

151. Portion 130, 50 chs. west of north-west corner of. No details. Disfigured by vandals. Informant, Mr. C. Elphinstone, Surveyor.

Gulgong parish.

152. Murragamba. Contains human hands in red stencil, goanna, and bird tracks in red. Disfigured by vandals. Informant, Mr. J. Milliken, Resident Engineer.

Lennox parish.

153. Ulan, 6½ miles north, on left side of Mudgee-Cassilis Road, and another 3 miles south of, adjacent to Mr. J. C. Sword's holding, "Woolarben," adjacent to Mudgee-Cassilis Road. Human hand stencils, bird tracks, etc. Informant, Mrs. G. Mountford.

Murrumbidgee parish.

154. Portion 1, 11 chs. from south-west corner of. Facing north, 40 ft. long. Contains 27 human hands, five hafted axes, three clubs, and two boomerangs in white stencil. Mathews, R. H.,⁽¹⁶⁾ X, 64, pl. ii, fig. 4.

Nulla and Simpson parishes.

155. "Livery Stable Cave," on range separating the two parishes. Contains charcoal drawings and human hand stencils. Informant, Mr. P. E. Raymond.

Price parish.

156. Portion 65, in vicinity of. No details. Informant, Mr. H. Barton, per Mr. W. J. Beddie.

Rumker parish.

157. Reedy Creek, on right bank, 3 chs. from creek, three-quarters of a mile north-east of portion 30. Facing south-east, 25 ft. long. Contains left and right human hands in red stencil, left and right human hands, boomerang, in white stencil etc. Mathews, R. H.,⁽¹⁶⁾ XI, 93, pl. i, fig. 7.

Wilpinjong parish.

158. Portion 4, three-quarters of a mile south of. Facing north-east, 54 ft. long. Contains 39 impressions of human hand, and bird's track, in red, etc. Mathews, R. H.,⁽¹⁶⁾ X, 64-5, pl. ii, fig. 6; ⁽¹⁷⁾ XXVII, 536, pl. xxix, fig. 6.
159. Portion 4, three-quarters of a mile south of. Facing south-east, 79 ft. long. Contains six goannas, two snakes, two "sun" figures, 15 bird tracks, four crosses and circle, in red, some infilled; three bird tracks in white; 14 human hands in red stencil; other figures not described. Mathews, R. H.,⁽¹⁵⁾ 150-1, pl. viii, fig. 5; ⁽¹⁶⁾ X, 62-3, pl. ii, fig. 1.
160. Wattle Creek, on right bank, 3 chs. from creek, which is a tributary of Wilpinjong Creek, and three-quarters of a mile north-east of north-east corner of portion 31. Facing south, 34 ft. long. Contains 12 human hands in red stencil. Mathews, R. H.,⁽¹⁷⁾ XXVII, pl. xxix, fig. 3, pp. 534-35.

RICHMOND COUNTY.

Dobie parish.

161. Portion 16, on Reserve No. 61718. No details. Informant, Mr. G. Lindsay.

ROXBURGH COUNTY.

Mead parish.

162. Portion 35, situated 350 degrees, 15 chs. from north-east corner of. Human hand stencils. Informant, Mr. C. Elphinstone, Surveyor.

ST. VINCENT COUNTY.

163. Abraham's Bosom. Two sites of rock paintings found by Mr. J. A. Cole. Towle C. C.,⁽²⁴⁾ 174.

Nowra parish.

164. Mundamia Creek, on western bank, 1 mile north of Nowra-Bamarang Road, and 250 yards north-west of a stone arrangement. Contains human hand stencil, human figure, indeterminate figure, in white. Found by Mr. J. A. Cole. Towle, C. C.,⁽²⁴⁾ 173.
165. Shoalhaven River, near junction of river and Mundamia Creek, 1 mile north of Nowra-Bamarang Road, and 700 yards north of a stone arrangement. Contains 28 human hands in white stencil; six human hand impressions in red; one fish, a T-shaped drawing, and an indeterminate figure. Found by Mr. J. A. Cole. Towle, C. C.,⁽²⁴⁾ 173.
166. Nowra district. Three sites. Found by Mr. J. A. Cole. Human hand stencils. (Maclean, J., *Sci. of Man*, N.S., IV, 1901, 82-3.) Towle, C. C.,⁽²⁴⁾ 174.

Little Forest parish.

167. Lake Conjola, at north end of Currickbilly Range, on branch of Coal Creek. Three rock-shelters containing paintings. One is 130 ft. long, and contains corroboree scene of numerous human figures, dingo, bird-track, mammals, etc.; one contains a goanna, boomerangs, whale, shield, penis and scrotum; no details of figures in third site. In black outline, white with black outline, red, red with black outline, white. Etheridge, R., Jr.,⁽⁷⁾

Quiera parish.

168. Site found by Mr. J. A. Cole. No details. Towle, C. C.,⁽²⁴⁾ 174.

Wollumboola parish.

169. Perpendicular Head. No details. Found by Mr. J. A. Cole. Towle, C. C.,⁽²⁴⁾ 174.

WESTMORELAND COUNTY.

Bulgares parish.

170. Mount Thurat, on east side of, on Reserve No. 13631. No details. Informant, Mr. C. Elphinstone, Surveyor.

Werriberri parish.

171. Burragarang Valley, on Mr. P. H. Blattman's property on track from Nattai River Junction to Cox's River, in south-west corner of parish. Contains human hand stencils in red.

WESTERN NEW SOUTH WALES.

COWPER COUNTY.

172. Mount Gundabooka, on Western Lands Lease No. 2819, at south end of mountain. Several caves with profusion of paintings in various colours. Informant, Mr. H. R. Stevens. McCarthy,⁽¹²⁾ photograph, Dunbar.⁽²⁹⁾ Black⁽²⁸⁾ gives the locality as Mulgowan Holding.

LIVINGSTONE COUNTY.

173. Mount Manara Homestead, north-west of. No details. Informant, Mr. T. W. Irish, Western Lands Commissioner. Worsnop,⁽²⁷⁾ Black.⁽²⁸⁾

MOOTWINGEE COUNTY.

174. Koonawarra Homestead, Western Lands Lease No. 2967. Rock paintings associated with rock engravings and stone arrangements. Dow,⁽³¹⁾ pp. 212-14, figs. 1-2, Black.⁽²⁸⁾
175. Wonnaminta Station, in Two Hills paddock close to the boundary with Kara Station, among stony ridges between Nunthurungie Ranges and Kooniberry Mountains. The Two Hills are near a watercourse which empties into Nundora Creek. Several rock shelters containing stencilled hands only. Found by Mr. A. Jackson, of Kara Station. Black.⁽²⁸⁾

MOSSGIEL COUNTY.

176. Yathong Station, seventy miles north-west of Hillston. Stencilled hands in several small caves. Black.⁽²⁸⁾

TANDORA COUNTY.

177. Burke's Caves, on Glenlyon Holding, site 10 chs. square, on Western Lands Lease Nos. 2143 and 4435. Contains human hands, boomerangs, in yellow stencil Dow, E. B.,⁽³⁰⁾ 117-8, Black.⁽²⁸⁾
178. Campbell's Gallery in Scope's Range, Glenlyon Holding, and near Sixty Mile Gum Creek. Contains paintings, one stencilled hand and one engraving Black.⁽²⁸⁾
179. Mootwingee, extensive series of paintings and engravings. Reserve No. 59533 Human hands and feet, boomerangs, shields, etc., and a snake 26 ft. long, in white and red stencil. Pulleine, R. H.,⁽²¹⁾ 181-2, pl. xxix; Dow, E. B.,⁽³⁰⁾ 110, pl. H; Black.⁽²⁸⁾

WOORE COUNTY.

180. Mount Doris Station, on a stony ridge near boundary of Western Lands Lease No. 3289. Contains human hand stencils. Informant, Mr. T. W. Irish, Western Lands Commissioner.

YANCOWINNIA COUNTY.

181. Waterbag Holding, The Ramparts. Human hands in red stencil in several caves engravings, and stone arrangements. Western Lands Lease No. 1852. Dow E. B.,⁽³⁰⁾ 118-9; Black.⁽²⁸⁾

YANDA COUNTY.

182. Winbar Homestead, about 24 miles south of, on Western Lands Lease No. 612 Paintings similar to Gundabooka series. Informant, Mr. T. W. Irish, Western Lands Commissioner. Black.⁽²⁸⁾

YOUNG COUNTY.

183. Peveril Hills, on Mena Murtee Station, near Wilcannia. Contains human hand stencils in white. Pulleine, R. H.,⁽²¹⁾ 182; Black.⁽²⁸⁾
184. Wiltagoona Homestead, about twenty miles west of. Contains paintings and stencilled hands. Black.⁽²⁸⁾

REFERENCES.

- ⁽¹⁾ Campbell, W. D.: Aboriginal Carvings of Port Jackson and Broken Bay. *Geological Survey of N.S.Wales Memoir, Ethnological Series*, No. 1, 1899.
- ⁽²⁾ Daley, C.: Rock-Shelters at Gudgeby, Federal Territory. *Victorian Naturalist*, L, 1933, 65-66, fig. 1.
- ⁽³⁾ Davidson, D. S.: Aboriginal Australian and Tasmanian Rock Carvings and Paintings. *American Philosophical Society, Memoir V*, 1936.
- ⁽⁴⁾ Enright, W. J.: Aboriginal Cave Paintings (Howes Valley). *Oceania*, X, 1939, 166-70, Plate.
- ⁽⁵⁾ Etheridge, R., Jr.: Report on Supposed Caves with Aboriginal Drawings, on Harris' Creek, George's River, near Liverpool. *Records Geological Survey of N.S.Wales*, I, 1889, 146-8, pl. xxiv.
- ⁽⁶⁾ ———: Idiographic Drawings of the Aborigines in a Rock-Shelter at Weeny Creek Colo River, near Richmond. *Op. cit.*, III, 1892, 33-37.
- ⁽⁷⁾ ———: A Remarkable Rock-Shelter in the Milton District. *Records Australian Museum* V, 1904, 80-85, figs. 8-13.
- ⁽⁸⁾ Golding, T.: *Town and Country Journal*, 19 Sept., 1896; *Australian Anthropological Journal*, 1898 pp. 12, 14; re-quoted by Etheridge, R., Jr., *Memoir Geological Survey N.S.Wales, Ethnological Series*, No. 3, 1918, No. 87, p. 84.
- ⁽⁹⁾ Hammond, P. T.: The Cave-Shelters near Wollombi in the Hunter River District. *Records Geological Survey N.S.Wales*, II, 1892, 174-6, pls. xiii-xv.
- ⁽¹⁰⁾ Harper, W.: Results of an Exploration of Aboriginal Rock-Shelters at Port Hacking. *Proceedings Linnean Society of N.S.Wales*, 1899, 322-32.